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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,363	06/15/2005	Johannes A. T. M. Van Den Homberg	NL 021372	7349

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EXAMINER	
ALUNKAL, THOMAS D	

ART UNIT	PAPER NUMBER
2627	

MAIL DATE	DELIVERY MODE
06/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,363	VAN DEN HOMBERG ET AL.	
	Examiner	Art Unit	
	THOMAS D. ALUNKAL	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-18* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *15 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/27/08 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 10, the phrase "for instance" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 10-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa et al. (hereafter Ishikawa)(EP 0,918,322 A1)(copy provided).

Regarding claim 1, Ishikawa discloses an optical disc drive apparatus (Paragraph 0002), comprising a laser device for generating a light beam for optically reading data from a disc (Figure 3, Element LD1), said laser device being incorporated in an LC oscillator circuit (Figure 3 and Paragraph 0021), with a parasitic capacitance of said laser resonating with an inductor to form a resonant LC circuit of said LC oscillator circuit, so that electrical energy can be exchanged in a resonant manner between the inductor and the parasitic capacitance back and forth (Paragraph 0021 where resonance is created between the inductance and capacitance to supply maximum current to the semiconductor laser).

Regarding claim 2, Ishikawa discloses wherein said LC oscillator circuit comprises a current path in which said laser device and an inductance are coupled in a series arrangement (Figure 8, Elements LD1 and L6).

Regarding claim 3, Ishikawa discloses wherein said LC oscillator circuit comprises at least one capacitance coupled in series with said laser device and said inductance (Figure 3, Element Cc1).

Regarding claim 4, Ishikawa discloses a laser driver circuit for driving a semiconductor laser (Figure 3), having a first output terminal and a second output terminal for connection to an anode terminal and a cathode terminal, respectively, of a laser to be driven (Figure 3, Element LD1 and connection terminals); the laser circuit comprising an inductance having at least one terminal coupled to at least one of said output terminals (Figure 3, Element L2), and a parasitic capacitance of said laser resonating with said inductance to form a resonant LC circuit of an LC oscillator circuit, so that electric energy can be exchanged in a resonant manner between the inductor and the parasitic capacitance back and forth (Paragraph 0021 where resonance is created between the inductance and capacitance to supply maximum current to the semiconductor laser).

Regarding claim 5, Ishikawa discloses at least one capacitance coupled between said inductance and said first or second output terminal, respectively (Figure 3, Element Cc1).

Regarding claim 6, Ishikawa discloses wherein said inductance has one terminal coupled to said first output terminal and has another terminal coupled to said second output terminal (Figure 3, output terminals of LD1).

Regarding claim 10, Ishikawa discloses an output stage implemented as an oscillator, for instance a Pierce oscillator, a Colpitts oscillator, a Hartley oscillator, coupled to at least one of said output terminals (Paragraph 0023).

Regarding claim 11, Ishikawa discloses a semiconductor laser driven by a laser circuit according to claim 4 (Figure 3, Element LD1).

Regarding claim 12, Ishikawa discloses an optical disc drive apparatus, comprising a laser driver circuit according to claim 4 (Paragraph 0002).

Regarding claims 13-14, Ishikawa discloses wherein the inductor and capacitor are connected in parallel (Paragraph 0021).

Regarding claim 15, Ishikawa discloses a first capacitor connected between a first terminal of the inductor and the anode terminal; and a second capacitor connected between a second terminal of the inductor and the cathode terminal (Figure 13 which discloses a plurality of coupling capacitors).

Regarding claim 16, Ishikawa discloses a switch connected between the anode terminal and a reference voltage source (Figure 3, Element TR1).

Regarding claim 18, Ishikawa discloses wherein the switch is a transistor (Paragraph 0017).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7-8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa and in view of Wood (US 5,757,141).

Regarding claim 7, Ishikawa does not disclose a diode (used as a switching element) coupled between one of said output terminals and a voltage reference. Rather, Ishikawa discloses a transistor as a switching element (Figure 3, Element TR1). In the same field of endeavor, Wood discloses a driving circuit where a diode is used as a switching element (i.e., an element which either passes or blocks current) (Figure 2, Element 43). Hence, the diode of Wood and the transistor of Ishikawa are art recognized switch equivalents.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to substitute the diode of Wood in place of the transistor of Ishikawa, motivation being to provide high frequency oscillation to the laser driver.

Regarding claim 8, Ishikawa discloses wherein said diode comprises a controllable switch controlled by a signal derived from a voltage occurring at a location in a current path defined by said inductance and said output terminals, said location corresponding to one terminal or tap of said inductance (Figure 3, location of Element TR1).

Regarding claim 17, Wood discloses wherein the switch is a bootstrap diode (Column 4, lines 59-67).

Allowable Subject Matter

Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claim 9, the prior art taken either singularly or in combination fails to disclose the laser drive circuit according to claim 4, further comprising an inverter coupled in parallel to said inductance.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sanford et al. (US 6,175,579) disclose an apparatus and method for laser frequency control. Gaddis (US 5,748,657) discloses a high efficiency constant current laser drive. Takahara (US 6,011,769) discloses an optical recording/reproducing apparatus. Fujikawa et al. (US 5,495,464) disclose an optical data recording/reproducing apparatus. Kuo et al. (US 6,859,624) disclose a laser diode optical transmitter for TDMA system with fast enable and disable times.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS D. ALUNKAL whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on (571)272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas D Alunkal/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627